

**ABSTRACT**

The invention methods for the enhancement of clavulanic acid production. In particular, the invention provides a method for increasing the production of clavulanic acid by: gene dosage with *orf2* from the clavulanic acid biosynthetic pathway in *Streptomyces clavuligerus*; and by manipulation of fermentation conditions, especially the concentration of DG3P, a substrate of N2(carboxyethyl)arginine synthase, the protein encoded by *orf2*. A method for preparing N2(carboxyethyl)arginine synthase is also provided, as is an assay for identifying its substrates.